

## REMARKS

According to the Examiner's 2/28/06 telephone conversation, a provisional election was made to prosecute claims 7-16 in group I and claims 17-27 were withdrawn. This election is affirmed. Claims 7-16 stand rejected on prior art basis. Claims 11-16 have been cancelled and claims 28-32 have been added.

The specification has been amended to remove the references to the null signs of " $\Delta X$ " in the packet lengths of the packets as shown in the table. One skilled in the art knows that for a redundancy technique in a packet sequence, the data portion of the packet will begin null and eventually fill with the redundant packet data as the sequence progresses.

It is noted that any claim amendments are made to merely clarify the language of each claim, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. It is further noted that, notwithstanding any claim amendments made herein, Applicant's intent is to encompass equivalents of all claim elements, even if amended herein or later during prosecution.

Specifically, claims 7 and 8 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Vargo (US 6,167,060) and claims 9-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Vargo in view of Grabelsky (U.S 6,678,250).

These rejections are respectfully traversed in view of the following discussion.

**I. THE 35 USC 112, SECOND PARAGRAPH REJECTION:**

Claims 11-16 have been cancelled, thereby rendering the 112 second paragraph to claim 11 moot. Applicant respectfully requests the Examiner to withdraw this objection.

**II. THE PRIOR ART REJECTIONS**

The Examiner alleges that claims 7-8 are anticipated by Vargo. Vargo specifically discloses redundancy methods using single packets containing separate data segments in a series and teaches against using a series of expanding redundant data segments *within* the same packet to provide redundancy. (col. 5, 15-20). Vargo addresses changing the packet size that would contain more data but this is only a longer, single data unit: "But while changing the packet size or bundling puts more information in each packet, changing the packet redundancy does not." Vargo specifically goes on to disclose in 5:50-6:35 using packet redundancy, not changing the packet size and not adding redundancy within the packets themselves.

The specific method of pairs of data segments for data redundancy within a packet of the claimed invention is not analogous to the multi-level packet redundancy of Vargo because Vargo claims that "an important focus of the present invention is the

*particular forward error correction algorithm for providing data redundance* (col. 5, lines 4-5). As the Examiner cited, Figure 7 of Vargo represents "each box is assumed to be essentially one data packet, but for purposes of illustration each of these packets is illustrated as a letter of th alphabet." (col. 5, l. 53-55) Thus, Vargo clearly uses repetition of *entire* single packets in the data stream. No combination of data from packets or adding multiple packets together as a single packet is disclosed nor suggested. In contrast to Vargo, the claimed invention adds redundancy by encoding multiple redundant data portions of current and preceding packets and encodes them all into one data length of a single packet. This is claimed in claims 7, 28, and 30 as

$$[x-j]N + [x-i]N$$

where  $i = (0 \text{ to } (k - 1))$  and  $j = (1 \text{ to } k)$  and each of the variables  $i, j$  increase by 1 in each iteration up to  $k$  levels of iterations that are performed for each packet.

The redundancy level is  $k$ , and the iteration of the formula is performed  $k$  levels for each single packet. Thus, each new packet's data is added to copies and redundant copies of data from previous packets in the sequence, thereby providing redundancy not only across multiple packets in the sequence but also within a single packet itself. This multi-dimensional redundancy is not taught nor disclosed in Vargo.

In the non-limiting preferred embodiment, the table on page 18 shows an illustration of this technique. In stacking the redundant data, the first packet S has only data for that packet, packet S+1 contains S+1 data and the previous S data, packet S+2 contains that packet data and all previous data segments, up to a maximum data length within a packet of kN.

As the Examiner has noted, Vargo's particular data series in Fig. 7a-d shows one data unit in each packet "T," "h," and so forth. Thus, the data buffer within each packet of Vargo does not expand with the addition of additional encapsulated data segments. The Fig. 7b does not show the claimed method. The packets drop from the paired segments immediately after the second copy of the packet is transmitted in consecutive order. Vargo's repeated packet series is clearly different and does not teach or suggest the claimed invention.

Applicant respectfully submits that claims 7-10 and 28-32 are patentable over the prior art references and requests the Examiner to reconsider and withdraw the current rejections.

## **CONCLUSION**

The informalities in the specification have been corrected as requested by the Examiner.

In view of the above amendments, the Examiner is respectfully requested to

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pass the above application to issue at the earliest possible time. Should the Examiner find the application to be other than in condition for allowance, the Examiner may contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.


The Commissioner is hereby authorized to charge any fees associated with this communication to Deposit Account No. 20-0668.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on June 5, 2006

 6.5-06  
Kendal M. Sheets Date